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CORRES CONTROL
OUTGOING LTR NO

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EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC
ROCKY FLATS PLANT, P O BOX 464 GOLDEN COLORADO 80402-0464 • (303) 966 7000

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ACTION ITEM STATUS
☐ OPEN ☐ CLOSED
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LTR APPROVALS

ORIG & TYPIST INITIALS
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RF-46469 (Rev 9/92)

April 1, 1993 93-RF-4049

Richard J Schassburger
Acting Director, Environmental Restoration Division
DOE, RFO

READINESS TO PROCEED WITH OPERATIONS OF THE INTERCEPTER TRENCH SYSTEM (ITS) DIVERSION - RLB-152-93

Refs (a) F R Lockhart ltr, (ERD SRS 03640) to E M Lee, ITS Diversion Subproject Special Assessment Findings, March 26, 1992

(b) R L Benedetti ltr, RLB-088-93, to J K Hartman, Graded Approach to Readiness Assessment Status for the Modular Tanks Portion of the Solar Ponds Remediation Project (SPRP), February 26, 1993

EG&G Rocky Flats, Inc (EG&G), has successfully completed its readiness assessment program supporting start up of operations for the ITS Diversion with the exceptions identified within the Evidence of Readiness Report (enclosed)

The Evidence of Readiness Report provides a summary of activities that have been completed, defines those activities that are open at the time of this transmittal, and identifies the current schedule for closure of each activity (additional schedule detail is provided in Attachment 4 of the enclosure) While it is recognized that the remaining work scope (pre-startup) must be completed prior to physical ITS Diversion, EG&G is confident that the required baseline documentation and program implementation elements are in place Documentation controlling the 1) safety envelope, 2) design, 3) administrative, operational, and alarm response procedures, 4) personnel training and qualification, 5) preventative maintenance order (PMO) and measuring and test equipment (M&TE), 6) facility equipment, systems operability, and pre-operational testing, 7) DOE Order Compliance, and 8) Conduct of Operations Program has reached the state of readiness necessary for ITS Diversion operations in accordance with the defined scope and milestone commitments of the Interim Measure/Interim Remedial Action (IM/IRA) The specific project documentation supporting the rationale for this approach is contained within the ITS Diversion Project Readiness Assessment Review Package, which was attached to Reference (b)

DOE/RFO has requested that EG&G perform a pre-startup demonstration on April 7, 1993, of the Tank-to Tank Transfer operation For EG&G to effectively demonstrate this procedural operation to the satisfaction of DOE/RFO EG&G needs to be provided written specific acceptance test criteria for this demonstration by April 2 1993

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

Based upon the preceding information, EG&G has concluded that it is safe to start-up operations for ITS Diversion and that the operation of this system will provide compliant control of the hazardous material Therefore, EG&G recommends that the Department of Energy grant EG&G a Declaration of Readiness to Operate

R L Benedetti

R L Benedetti
Associate General Manager
Environmental Restoration Management
EG&G Rocky Flats, Inc

DAR bep

Orig and 1 cc - R J Schassburger

Enclosure
As Stated (1)

cc

S	Howard	-	DOE, RFO w/o attach
F	Lockhart	-	" " "
M H	McBride	-	" " "
E	O'Toole	-	" " "
S R	Surovchak	-	" " "

Table of Contents

Evidence of Readiness Report
Interceptor Trench System (ITS) Diversion

I INTRODUCTION

A Facility Boundaries

The overall scope of the Rocky Flats Plant Solar Ponds Remediation Project (SPRP) is to close and remediate the solar ponds, to remediate adjacent contaminated surface and subsurface soil and water, and to store current and future treated and untreated remediation wastes in accordance with applicable laws pending their final disposition A sub-project of that effort is the diversion of water pumped from the Interceptor Trench System (ITS) into the 207B series ponds The water will instead be pumped from the ITS to the Temporary Modular Storage Tanks (TMSTs) From the TMSTs the water will be pumped to Building 374 or (when completed) to Building 910 for evaporation

1 Physical Boundaries

The primary components of the ITS Diversion are a French drain (the ITS), three TMSTs, and the related pumping equipment and piping [See Attachment 1] *The ITS/French drain piping, Building 308A pump house (except for minor modifications that support the ITS Diversion), the Above-Ground Transfer Line and Building 374 are preexisting and are not included in this Readiness Assessment*

Water is pumped from the ITS to the TMSTs through doublewall plastic transfer lines The two-inch underground lines run from the central sump located in B308A to each of the three TMSTs which are located north of the solar ponds Each of the three TMSTs is 10 feet high and 110 feet in diameter, with a capacity of approximately 500,000 gallons

The Building 308B pump house (B-308B) is located approximately 100 feet east of the TMSTs and houses two pumps and instrumentation which are used to pump water from the TMSTs A two-inch underground line runs from the TMSTs through B-308B and B-308A into B-910 In B-910, the line from the TMSTs enters a three-way valve which allows water to transfer to B-374 The piping to B-374 leaves B910, skirts the south and west sides of Pond 207A, and then connects to the existing Above-Ground Transfer Line (AGTL) on the west side of Pond 207A All piping is above-ground from B-910 to the existing AGTL, heat-traced, insulated, and leak-detected

2 Administrative Boundaries

The SPRP has overall programmatic and funding responsibility for all portions of the program Environmental and Waste Management, Liquid Waste Systems Operations, is responsible for the operational control of the plant liquid waste transfer system that includes the TMSTs, Buildings 374 and 910, and the transfer line up to and including Valve Box 5 The existing AGTL from Valve Box 5 to the wall of Building 374 is under operational control of Waste Solidification Operations

The administrative controls of the system include documents such as the Final Safety Analysis Report (FSAR), various design documents/drawings, and the Health and Safety Plan (HASP) Operation of the system will be controlled under plant documents such as Conduct of Operations (COOP), Integrated Work Control Program (IWCP), and the Training Users Manual

(TUM), with operating procedures (see Attachment 2) developed and controlled in accordance with 1-11000-PAPG-001 and -003, (for technical procedure development) and 1-48000-DM-001, "Document Control Program"

The project scope of readiness has taken credit for implementation of administrative controls However, the readiness assessment did not revalidate the effectiveness of these controls The focus of the readiness assessment was project specific activities and documentation

B Graded Approach to Readiness Assessment Process

1 In accordance with DOE Order 5480 23, Nuclear Safety Analysis Report, a Final Safety Analysis Report (FSAR) has been filed for the B-910 facility, including the ITS Diversion It was conditionally approved by DOE- HQ (EM-1) on March 25, 1993 This FSAR contains the technical justification for designation of SPRP as Category 3, Low Hazard DOE has directed the use of a "graded approach" for program readiness assessments and evaluations for (such) facilities These directions conceptualize that the documentation and other actions necessary for compliance with safety and quality requirements shall be commensurate with the magnitude of the (inherent) hazards and general characteristics of the facility/operation involved SPRP has followed these directions in developing a graded approach to the ITS Diversion readiness assessment (see ¶ I B 3 below for clarification)

The scope statement of RFP Policy 7-25, "Readiness Review," March 9,1992, reads, " A graded approach will be utilized from the more rigorous RR to the simplest post maintenance inspection, etc , required by the Configuration Change Control Program (CCCP) The existing inspection, testing, training, document update, etc , required by the plant CCCP will be used for all modifications to the plant that are not required to have a RR "

RFP Procedure 1-11000-ADM-10 01, Rev 0, "Readiness Review Process," September 1, 1992, is the implementing procedure for the above policy Paragraph 2 3 of this procedure's scope statement states that the CCCP satisfies the RR (i e , the CCCP constitutes a graded approach under the definitions/conditions cited) Specifically, this paragraph states, "The existing inspection, testing, training, and document revision and maintenance requirements of the CCCP satisfies the Readiness Review for all plant modifications that are not required to have a formal RR "

The Plant Configuration Change Control Program (CCCP) establishes the requirement for a singular, graded change control program for developing and controlling the configuration and project scope for all new facilities, and, controlling changes to the configuration of all existing facilities, systems, processes, safety related software, and site land at Rocky Flats in accordance with applicable Department of Energy Orders, National Codes, and Industry Consensus Standards Because of the historical evolution of the CCCP, some, but not all, steps in the ITS configuration were processed in accordance with the CCCP

2 Standards, Audits, and Assurance (SAA) Review of Compliance with Configuration Change Control Program (CCCP)

Surveillance 93-QAS-NISS-047, Rev 0, reviewed work packages T1039653- " Modular Tank Installation," T1061410- "Above Ground Transfer Line," and T1062328- "Tank-To-Tank Line," for procedural compliance to QR-3 "Design Control," QR-5 "Instructions, Procedures, and Drawings," QR-6 "Document Control," QR-8 "Identification and Control of Items," QR-14 "Inspection, Test, and Operating Status," and QR-15 "Identification and Control of Non-Conforming Items '

The major focus of the surveillance was the CCCP, the Integrated Work Control Program (IWCP), and the Conduct of Engineering Manual (COEM) Work packages were retrieved at T690-M, Construction Management "The surveillance indicated substantial compliance with the CCCP, COEM, and IWCP "

The findings have been dispositioned and appropriate corrective actions which required completion prior to startup have been closed Any remaining findings from this surveillance which have been determined as "Post-startup" will be addressed through the deficiency reporting system as required by 2-50000-ADM-21 01, Rev 0, "Quality Assurance Surveillance Procedure"

3 Self Assessment

In addition to relying on the CCCP, the Solar Ponds Program Office performed a Self Assessment to provide additional verification that the ITS Diversion portion of the SPRP is ready for safe operations and is in compliance with applicable regulations This assessment employed a graded approach, as described in Section B above, i e , the selection of appraisal areas and the depth and detail to which they were appraised were based upon knowledgeable and prudent evaluation of the facility and operations Areas critical to ITS operation and to the protection of health and safety of workers, the public, and the environment received the most detailed review, based on a quantitative assessment of risk as documented in Chapter 5 and Appendix B of the FSAR

The graded approach is evident in the project specific checklists that cover the key project elements The primary thrust of the review/evaluation/validation of the checklists was to ensure the ITS Diversion portion of the SPRP is capable of performing basic functional tasks as designed

a) The following areas were considered to be key project areas to be addressed by the ITS Diversion Self Assessment
   - Systems
     - A Organization
     - B Availability of Documents
     - C Condition and Testing of Components
     - D Measuring and Test Equipment
     - E Effluent Monitoring
     - F Equipment Labeling and Lockout/Tagout (LOTO)
     - G Records
     - H Process Alarms
   - Baseline Safety Documents
     - A Final Safety Analysis Report (FSAR)
     - B Health and Safety Plan (HASP)
   - Procedures
     - A Existence and adequacy of procedures for
       - 1 Operations
       - 2 Emergencies
     - B Control of Procedures
       - 1 Document Control
       - 2 Field Change Orders (FCO's)

- Training of Personnel
  - A Records
  - B On-the-Job-Training
  - C Training Effectiveness
    - 1 Operations
    - 2 Health and Safety
    - 3 Emergency Preparedness

- Permit Compliance
  - A National Environmental Protection Agency (NEPA)
  - B Clean Water Act (CWA)
  - C Resource Conservation and Recovery Act (RCRA)
  - D Colorado Department of Health (CDH)

- Secondary Containment
  - A Effectiveness
  - B Decontamination capability

b) Project Specific Checklists

The Environmental and Waste Management Resumption Support Startup Team reviewed these key project elements in accordance with the graded approach concept Project specific checklists were developed for the key project elements The checklists were reviewed against the SPRP Readiness Review Tree in accordance with 1-11000-ADM-10 01, "Readiness Review Process," and assigned to a box in the tree The checklists evaluate the readiness of Structures and Supporting Hardware, Management Controls and Procedures, and Personnel Readiness and Training If the Startup Team deemed it necessary to evaluate the readiness of a specific system within the tree, and a regulatory checklist did not exist for that system, the Startup Team wrote an internal requirement to cover that system

The scope of the Self Assessment did not include a review of Rocky Flats Plant programs, except to the extent that they are affected by codes, standards, or regulations governing project operations Within the scope of the graded approach objectives, the Self Assessment evaluated the following Readiness Review Tree systems

A Structures and Supporting Hardware
- A1 Basic Processing Equipment
  - A1 02 Feed System
  - A1 06 Instrumentation
  - A1 07 Storage Containers, Tanks, and Vessels
  - A1 08 Equipment Labeling and Listing
  - A1 09 Equipment Preventive Maintenance
  - A1 10 Process Instrumentation Calibration
- A2 Primary Support System
  - A2 10 Remote Equipment and Alarms
- A4 Safety Hardware
  - A4 04 Verification of Engineered Safety Features
  - A4 05 Radiation Monitoring Equipment
- A5 System Interfaces and Other Supporting Hardware
  - A5 07 Environmental Equipment

B Management Controls and Procedures
- B1 Procedures and Plans
  - B1 01 Administrative Procedures and Records Management
  - B1 02 Operating, Procedures and Plans
  - B1 03 Data Sheets and Travellers
  - B1 05 SO Test/Cold Op Demo/Qualification Test Procedures
  - B1 06 Preventative Maintenance Procedures
  - B1 07 Instrumentation Calibration Procedures
  - B1 08 Maintenance Procedures
  - B1 09 Health Physics and Radiation Work Procedures
  - B1 13 Decontamination Procedures
  - B1 15 Configuration Change Control Procedures
  - B1 17 Conduct of Operations Procedures
  - B1 18 Environmental Compliance Procedures and Permits
  - B1 19 Emergency Preparedness and Response Program
- B2 Safety Documentation
  - B2 01 Final Safety Analysis Report (FSAR)
  - B2 02 Safety Analysis/Nuclear Safety
  - B2 03 Criticality Safety Evaluation
- B3 Communications Systems and Alarms
  - B3 03 Alarms and SAAMs Procedures
- B4 Other Administration Controls
  - B4 01 As-Built Drawings and Records
  - B4 04 Training Materials and Records
  - B4 06 EPA/Colorado (CCR) Operating Requirement
  - B4 07 Quality Assurance Program
  - B4 08 Industrial Safety/Industrial Hygiene Procedures and Programs
  - B4 09 ALARA
  - B4 11 Lockout/Tagout
  - B4 20 Engineering/Design Procedures
  - B4 26 Identification, Packaging, Storage, and Transportation of Waste Procedures

C Personnel Readiness and Training
- C1 Training Programs
  - C1 01 Supervisor/Foremen Training
  - C1 02 Operator Training
  - C1 03 Engineer Training
  - C1 12 Emergency Response Training (Plant Program
  - C1 15 Environmental Training
  - C1 17 Safety and OSHA Training
- C2 Operational Support Personnel
  - C2 10 Start-up and Test Engineering Personnel
- C3 Technical and Engineering Support
  - C3 01 Engineering Personnel

The Self Assessment Plan contains the ITS Diversion checklists that were placed into scope for the assessment The checklists are generally traceable to DOE Orders, State and/or Federal regulations (i e , CFR's and CCR's), or national standards Objective evidence of compliance is obtained as a result of the checklist validation effort The documents that support the objective evidence are referenced or attached to the checklists, as applicable

4 Findings/Open Items

a) Findings and Open Items were identified in the Self Assessment Report delivered to SPRP by E&WM Resumption Support These have been placed into the SPRP Internal Tracking Matrix (Attachment 3), which is a part of the Project Readiness Assessment Review Package This package will, upon completion, be transmitted to Environmental Restoration Management Document Control, in accordance with 3-21000-ADM-06 01, "Document Control," and 3-21000-ADM-17 02, "Administrative Records Screening and Processing " The Project Readiness Assessment Review Package was also transmitted to DOE,RFO/ERD

b) The findings and open items noted above have been categorized by SPRP as Pre-startup and Post-startup

(1) The closure of those items designated as Pre-startup will be expedited, with the SPRP Internal Tracking Matrix (Attachment 3) employed for tracking the corrective action by task, schedule, and responsible party Those Pre-startup items which are not closed as of the date of transmittal of this Evidence of Readiness Report (April 1, 1993) will be tracked by SPRP Project Management and closure documentation will be included as a part of the Project Readiness Assessment Review Package

(2) Those items categorized as Post-startup will be entered into the Plant Action Tracking System (PATS) to ensure that the needed inter-departmental efforts are properly concluded Documentation of the assignment of these items to the PATS will be included as a part of the Project Readiness Assessment Review Package

c) In addition to those Findings and Open Items which were identified in the Self Assessment Report delivered to SPRP by E&WM Resumption Support, the DOE, RFO/ERD Startup Team also identified several concerns and issues These are addressed in more detail under Section VII of this document

C Project Execution

1 Configuration Control

Configuration change control is managed through the Configuration Change Control Program (CCCP) program Refer to Section I B 1 for definition of CCCP

2 Quality Assurance

The ITS Diversion Quality Assurance Plan (QAP) delineates the controls and quality assurance indicators used to plan, develop, and implement the ITS Diversion The QAP is limited to design, construction and installation of the ITS Diversion elements as defined within the QAP Section 5 0, Project Description

The objective of the QAP is to ensure that requirements applicable to the ITS Diversion are identified and processes are controlled, proceduralized, and documented Requirements of the RFP Quality Assurance Manual were applied to the ITS Diversion activities to degrees commensurate with their categorization and classification

A listing of procedures necessary to perform the project tasks is contained in the Quality Requirements and Procedures Compliance Matrix attached to the QAP General control is achieved in accordance with an appropriate applicable procedure listed in the matrix The QAP identifies the quality requirements applicable to the ITS Diversion The quality requirements have been selectively applied to the project activities using the graded approach

D Summary and Recommendation

The graded approach to Readiness Assessment, as described above, has been developed and followed with appropriate (credit) given to pre-existing programmatic elements The identification of key project elements, as described above, which were deemed to warrant additional assessment, supported the graded approach concept in that areas (elements) of particular import should receive relatively more rigorous assessment EG&G SPRP believes that the graded approach has been properly employed in the ITS Diversion readiness assessment

EG&G SPRP believes that the Findings, Open Items, and Concerns/Issues resulting from the assessment, as referenced herein, are either closed as of the date of this Evidence of Readiness, or, that fully adequate Action Plans / compensatory measures have been approved for their resolution and that the responsibilities and commitment dates for those resolutions are being adequately tracked Further, EG&G SPRP finds that there are no outstanding (open/unresolved) Findings, Open Items, or Concerns/Issues which would degrade the protection of health and safety of workers or the public, pose any significant potential for spill or other environmental insult, pose the potential for violation of any permit, statute, primary DOE Order(s), or FSAR requirements, or would constitute a substantial effect on the ability of SPRP to carry out its programmatic mission Therefore, there are no items of such significance as to reasonably preclude the diversion of ITS water

EG&G SPRP therefore recommends that the United States Department of Energy, Rocky Flats Office, grant a Certificate of Readiness to Operate for the ITS Diversion sub-project, as a portion of the Solar Ponds Remediation Program

II DESIGN

A Design Requirements

1 Design requirements are specified in the Interim Measure/Interim Remedial Action (IM/IRA) Decision Document for the Solar Evaporation Ponds, Operable Unit No 4, the Operational Requirements Document (ORD), and the Design Criteria

2 The Design Criteria include applicable Rocky Flats Plant standards and applicable sections of DOE 6430 1A

B Safety

1 The safety basis is established by Final Safety Analysis Report (FSAR) which received conditional DOE HQ approval on March 25, 1993

2 The facility was determined to be a hazard Category 3

Section 1 4 of the FSAR summarizes the hazard classification of the facility, accident analysis, and Technical Safety Requirements that provide measures necessary to protect the safety risk envelope

A detailed hazards and failures analysis of the TMSTs and B-910 systems and processes was performed After screening and ranking of the identified event sequences, a set of sequences consisting of 1) natural gas leak/deflagration, 2) process solution leaks, and 3) process solution spills were selected and quantitatively analyzed A Beyond the Design Basis (severe) Accident (BDBA) scenario was postulated and analyzed to bound the potential consequences from the TMSTs and B-910 accidents The results of these occurrence analyses are summarized in Table 1 4-1 of the FSAR Comparison of the consequences of a BDBA to the hazard class criteria of (DOE-RFO91) in Table 1 4-2 of the FSAR confirms a Category 3 (low hazard) classification of the TMSTs and B-910 operations

C Controls

1 Introduction

The design of the three 500,000 gallon storage tanks was performed by Los Alamos Technical Associates (LATA) under subcontract to EG&G Engineering LATA subcontracted the geotechnical analysis to Woodward Clyde & Assoc Procurement of the tanks was completed as Government Furnished Equipment (GFE) by EG&G Engineering, and Modutank was the successful bidder

2 Processes

a) EG&G

(1) The original design package and equipment specifications for the TMSTs were completed and reviewed internally per applicable Design Procedure (DES) and Project Management (FAC) procedures A plant-wide review was conducted in accordance with the requirements of the Conduct of Engineering Manual (COEM)

(2) Although CCCP and COEM procedures under those names were not in effect at the time the original design package and the original equipment specifications were issued, the then applicable procedures were later incorporated into the COEM

(3) All subsequent change orders and scope changes were completed in accordance with COEM procedures

b) Subcontractors

(1) LATA - The design criteria and a Title II Construction package were completed per applicable DES and FAC procedures The design submittals were reviewed plant-wide and approval signatures are documented on the appropriate Design Review Records LATA has met the requirements set forth in the Statement of Work, Rev 4

(2) Woodward Clyde - A soil analysis and slope stability analysis of the tank site was completed under subcontract to LATA The final report was reviewed by appropriate EG&G personnel Woodward Clyde has met the requirements set forth in the Statement of Work, Rev 4, issued to LATA

(3) ModuTank - The TMSTs were procured from an EG&G equipment specification The specification covered the design, fabrication, installation, training, and performance requirements ModuTank has met the requirements set forth in the specifications for a Modular Water Storage Tank, Revision D

3 Standards

a) EG&G and subcontractors identified above followed applicable Rocky Flats Plant Standards as identified in the SPRP Water Management Document Tree

b) The Title II Construction package was completed in accordance with approved design criteria as identified in the SPRP Water Management Document Tree

D Self Assessment

1 The Self Assessment checklists evaluated key project elements, as described in Section I B 3 above Design Control covers a number of the key project elements identified as necessary for review The Rocky Flats Implementing Documents for the requirements contained within the checklists are also listed on each checklist Therefore, the assessment included a review of the specific process required by the Implementing Documents and assessment as to the adherence to that process

2 Specific checklist criteria were included within the evaluation of the design elements These included, among others
- #2 - Implementation of effective design control system for design and construction of the project
- #3 - Evidence that marked-up drawings reflecting as-built configuration are available prior to operation
- #6 - Project has an approved FSAR
- #13 - Low Level Mixed Waste shall be properly collected, per DOE 6430 1A
- #17 - Required secondary containment exists, per CCR 265
- #21 - Evidence of an FSAR developed and completed prior to operation
- #25 - Documents, drawings, and other operator references are available, authorized, and controlled
- #26 - Components and equipment are maintained in a condition to support safe and effective operation
- #36 - An effective QA system was implemented for design and construction
- #38 - Project is controlled via instructions, procedures, and drawings, including the use of the IWCP

3 A Checklist Identification Matrix was developed to show the relationship of the checklists to the Readiness Review Tree Systems

4 The results of the Self Assessment with regard to design elements will be documented as described in Section I B 4 above

III CONSTRUCTION

A Controls

1 Introduction

Construction of the TMSTs pad, B-308B, and piping systems was performed by E T LaFore and its sub-contractors, under sub-contract to EG&G

Installation of the telemetry system, the pipeline from B-910 to the Above Ground Transfer Line, and portions of the Tank-to-Tank Transfer System, was performed by J A Jones Construction Services Company under sub-contract to EG&G

Installation of the TMSTs was performed by ModuTank, Inc , under sub-contract to EG&G

2 Processes

a) EG&G Management of Construction

Construction work performed at RFP is controlled by essentially two documents The COEM guides the control of subcontract activities from budget and configuration standpoints The IWCP guides actual field construction activities from primarily Health and Safety and Quality standpoints The two documents are not mutually exclusive, and some overlap of direction, guidance, and control exists

(1) COEM The management of construction activities is directed in accordance with Conduct of Engineering Manual (COEM) procedures Procedures contained in the COEM guide various Construction Management practices including Field Change Orders (FCOs) for Fixed Price Subcontracts, Submittal Tracking, Weekly Construction Summary Reports, Daily Logs, Project Acceptance and Transfer (PA&T), Processing of Subcontract Pay Applications, and other Construction Management related (CSP) procedures The COEM specifies how Construction Management is performed at RFP

(2) IWCP All construction work performed at RFP is controlled by the Integrated Work Control Program (IWCP) The work performed for the installation of TMSTs, Telemetry, and Tank-to-Tank Transfer was controlled by IWCP packages These packages outlined the work steps necessary to perform the subcontract work safely, and to provide for proper inspection of the work The Tank-to-Tank Transfer package has been completed and closed-out, while the TMST package and Telemetry package have not been closed since the work scope is not completed The IWCP packages have been revised as necessary to accommodate design and administrative changes to the various construction subcontracts

(3) Procurement of sub-contractors Procurement of the subcontracts included in the ITS diversion project has been accomplished under guidance of Federal Acquisition Regulations and DOE Acquisition Regulations as administered by EG&G Subcontract Procurement Department

b) Sub-contractors, Contractual Pocesses Requirements The subcontractor is bound by the requirements of the project specifications

(1) E. T. LaFore, Inc. -- The requirements and applicable documents for E T LaFore, Inc can be summarized as follows IFB No 216169VG, OSHA-29 CFR 1910, OSHA-29 CFR 1926, 29 CFR 1904, H&S Procedures Manual, IWCP, DOE Order 5480 9, DOE Order 5480 1, ASTM D2321, AASHTO M85, -T89, -T90, -T96, -T99, and others listed in the specification

(2) Modutank -- The requirements and applicable documents for Modutank can be summarized as follows 6 CCR 1007-3, AWS D1 1, ASCE 7-88, RFP Standards SC-106, SM-106, and SM-136, AISC, and 40 CFR Part 265 192

3 Standards

Construction Management complies with the standards listed in Attachment 4

B Self Assessment

1 The self assessment checklists evaluated key project elements as stated Section I B 3 above However, the self assessment did not evaluate the RFP programs that control construction Validation of checklists for Engineering design evaluate whether the constructed product meets the design drawings, specifications, and standards Control of construction is governed by IWCP, CCCP, OSHA, 29 CFR-1925, COEM, and various other RFP implementing documents

IV TEST PLAN

A Test Philosophy

Testing was divided into three distinct phases Construction Inspection, Construction Component, and Systems Operational (SO) testing Construction Inspection testing verified that proper construction practices were followed and proper material were used Construction Component testing verified installation completeness SO testing verified that the complete system operates as designed

B Controls

1 Introduction

Testing boundaries are the same as those described for the physical system

The following areas were tested
Earthwork and Pad for TMSTs
TMSTs (including leakage tests)
Mechanical, Piping, and Electrical at Pad and in Bldgs 308A and 308B
Pipeline - 308A to TMST
Pipeline - 308B to Bldg 910
Piping Modifications within Bldg 910
Pipeline - Bldg 910 to Existing Above-Ground Transfer Line
End-to-End Flow Test - TMSTs to Building 374

2 Processes

Testing was defined, planned, and executed under the requirements of the IWCP The IWCP work packages either wholly defined step-by-step testing procedures, referenced testing requirements defined in the design documentation, or referenced specifically developed, external test procedures

Construction Inspection testing and Construction Component testing requirements were defined in the design documentation developed under COEM Activities performed to conduct the tests, collect and preserve data, and verify test conduct were controlled by the IWCP Additionally, specific Construction Inspection testing was performed in accordance with applicable ASTM methods, which were incorporated into the appropriate RFP test document

SO testing requirements were defined in the design documentation developed under COEM The test procedures were developed in accordance with COEM Procedure FAC-29 (for Category I, II, and III systems) The tests were performed in accordance with FAC-29 and IWCP

Performance of the testing requirements was verified through IWCP requirements for project closure COEM Procedure CSP-24 established additional verification requirements for Construction Component testing FAC-29 established additional verification requirements for SO testing

3 Standards
IWCP
COEM
COEM FAC-29
COEM CSP-24

C Self Assessment

1 The Self Assessment checklists evaluated key project elements as stated in Section I B 3 above SO Test Plans and results were reviewed during the validation of some of the checklists SO Tests are a sub-category of the key elements evaluated for Engineering, Environmental Management, Procedures, Quality, and Operations The Rocky Flats Implementing Documents for the requirement contained within the checklists are listed on each checklist Therefore, the assessment included a review of the specific process required by the Implementing Documents and an assessment as to the adherence to that process

2 Specific checklist criteria were included within the evaluation of the testing elements These included, among others
- #4 - A qualified Systems Engineer is assigned to the project
- #5 - SO testing, planning, and control were comprehensive, all-inclusive, implemented effectively, and properly accepted
- #12 - Tightness tests to be conducted on all tanks and ancillary equipment, per CCR 265
- #27 - Instruments tested and calibrated in accordance with plans/procedures
- #35 - Alarms in B-308B are operating properly and being received in B-308B and B-374
- #40 - Evidence that test and measuring equipment used in the project are properly controlled and calibrated

3 A Checklist Identification Matrix was developed to show the relationship of the checklists to the Readiness Review Tree System The Tree System Name identifies the specific system(s) evaluated for each checklist under each specific discipline

4 The results of the Self Assessment with regard to testing elements will be documented as described in Section I B 4 above

V OPERATIONS

A Requirements

At an upper level, the requirements for operation of the ITS diversion are outlined in three documents

1 Building 910 Final Safety Analysis Report (FSAR) -- The B-910 FSAR analyzes the operation of B-910 and the TMSTs and establishes operating parameters that ensure the safe operation of the facility The B-910 FSAR provides the hazard classification of the facility, accident analysis, and Technical Safety Requirements that provide measures necessary to protect the safety risk envelope

2 Operable Unit No 4 IM/IRA -- The IM/IRA Decision Document for OU4 is the mechanism for permitting the use of the proposed activity to facilitate implementation of the Solar Evaporation Ponds (SEPs) RCRA partial closure action

3 The RFP Conduct of Operations (COOP), which provides for overall operating requirements

B Training

All training for the diversion of ITS water is performed in accordance with the following document

1 Task Qualification Document Liquid Waste Processing -- Task Diversion of ITS Water

The Task Qualification Document Liquid Waste Processing is prepared in accordance with the requirements established in the Training Users Manual (TUM) The task of diverting ITS water is described in four technical operating procedures Operators are required to attend classroom training and complete OJT developed from the technical operating procedures In addition, applicable CORE training for each operator is required prior to process qualification

C Controls

1 Processes
- a) Building 910 Health and Safety Plan
- b) Operational Safety Analysis (OSA) 910 001, Building 910 Evaporator Process
- c) 4-22MTS-308A-001, "Modular Tank Waste Water Fill Operation"
- d) 4-22MTS-308B-001," Modular Tank Waste Water Transfer to Building 374"
- e) 4-22MTS-308B-002, "Modular Tank Waste Water Transfer Abnormal Operation"
- f) 4-22ARP 308B-ANN, "Modular Tank Alarm Response Procedures"

2 Standards

1324 5	Records Management Program
5480 11	Radiation Protection for Occupational Workers

5480 19 Conduct of Operations for DOE Facilities
5480 20 Personnel Selection, Qualification, Training, and Staffing Requirements at DOE Reactor and Non-Reactor Facilities
5480 22 Technical Safety Requirements
5480 23 Nuclear Safety Analysis Report
5500 3A Planning and Preparedness for Operational Emergencies

3 Operating procedures are developed in accordance with the following documents
a) 1-11000-PAPG-001, "Technical Procedures Preparation Process"
b) 1-11000-PAPG-003, "Procedure Writing Guide for Technical and Administrative Procedures"

The Operational Safety Analysis is prepared in accordance with HSP 2 03, "Operational Safety Analysis "

D Preventive Maintenance Orders

The Preventive Maintenance program for theTMSTs and the associated ITS components is being developed in accordance with 1-7400-IWCP-7, "Preventive Maintenance Process," and COEM Engineering Directive 91-006, "Systems and Design Engineering of IWCP-7 Preventive Maintenance Procedure " The actual PM packages have been initiated and are under internal review by concurring organizations in accordance with the above referenced procedures The periodicity of the PMOs has been determined, and all are 6 months or greater The PM packages will be available for the Operations Manager for execution by May ,1993, well before the first scheduled preventive maintenance

E Self Assessment

1 The Self Assessment checklists evaluated key project elements as stated in Section I B 3 above Operations covers a number of the key project elements identified as necessary for review The key elements are in the following disciplines Procedures, Training, Process Alarms, Records Management, Health and Safety, and compliance to Environmental Management and Waste Management regulations The Rocky Flats Implementing Documents for the requirements contained within the checklists are listed on each checklist Therefore, the assessment included a review of the specific process required by the Implementing Documents and an assessment as to the adherence to that process

2 Specific checklist criteria were included within the evaluation of the operations elements These included, among others
- #1 - Criticality safety evaluation performed to demonstrate that involved processes are subcritical under both normal and credible abnormal conditions, adequacy of evaluation is documented
- #4 - Tightness tests to be conducted on all tanks and ancillary equipment, per CCR 265
- #5 - A qualified Systems Engineer is assigned to the project
- #6 - SO testing, planning, and control were comprehensive, all-inclusive, implemented effectively, and properly accepted
- #11 - Classroom and on-the-job training completed in accordance with CCR 265
- #13 - Low Level Mixed Waste shall be properly collected and monitored and sampled, per DOE 6430 1A
- #14 - Tightness tests to be conducted on all tanks and ancillary equipment, per CCR 265
- #15 - Written schedule for inspection of all equipment and the facility is developed, per 40 CFR 265

- #16 - Existence of emergency management programs, plans, and procedures, per DOE 5500 3
- #17 - Chemical, physical, and/or other environmental stress have been identified, personnel informed, and stresses are being controlled
- #18 - Operating organization and administration have effectively implemented Industrial Hygiene, Occupational Safety, Radiological Protection, and Health and Safety Engineering programs
- #19 - Hazard communication program effectively implemented, per 29 CFR 1910
- #20 - Required OSHA training completed, per 29 CFR
- #22 - Safety analysis and review process ensures that potential hazards are systematically identified
- #24 - Operations organization and administration effectively implements and controls operations activities
- #25 - Documents, drawings, and other operator references are available, authorized, and controlled
- #26 - Components and equipment are maintained in a condition to support safe and effective operation
- #27 - Instruments tested and calibrated in accordance with plans/procedures
- #28 - Equipment labeling program is established and implemented
- #29 - Locks and tags employed for personnel and equipment protection and configuration control
- #30 - Controlled alarm response procedures are available to operators, per DOE 5480 19
- #31 - Proper concurrors have reviewed Operations Order prior to issue, per DOE 5480 19
- #32 - Operations Orders, operating procedures, ARPs are approved for the TMSTs, per DOE 5480 19
- #33 - Alarms in B-308B are operating properly and being received in B-308B and B-374
- #34 - Effective organizational structure exists
- #35 - Project is controlled via instructions, procedures, and drawings, including the use of the IWCP
- #38 - Log books provide concise summary of daily activities
- #39 - Document control system exists
- #40 - Evidence that test and measuring equipment used in the project are properly controlled and calibrated
- #42 - Training materials are reviewed and approved and training records maintained in an auditable manner
- #44 & #45 - On-the-job training programs properly structured, emergency responses properly trained for
- #46 - LLW is accurately characterized to permit proper segregation, treatment, storage, and/or disposal
- #47 - Identification and maintenance of all devices is ensured
- #48 - Decontamination procedures are developed and implemented
- #50 & #51 - All operators are properly trained

3 A Checklist Identification Matrix was developed to show the relationship of the checklists to the Readiness Review Tree System The Tree System Name identifies the specific system(s) evaluated for each checklist under each specific discipline

4 The results of the Self Assessment with regard to operations elements will be documented as described in Section I B 4 above

VI ENVIRONMENTAL/REGULATORY

Because of the impact and visibility of the SPRP as as environmental project, and given the priority placed on the SPRP by both DOE and RFP, formulation of the graded approach to Readiness Assessment paid close attention to environmental and regulatory compliance issues Specific checklist elements were cited to include the following criteria, among others

- #1 - Criticality safety evaluation performed to demonstrate that involved processes are subcritical under both normal and credible abnormal conditions, adequacy of evaluation is documented
- #6 - Low Level Mixed Waste shall be properly collected and monitored and sampled
- #7 - All necessary NEPA actions have been addressed
- #8 - Compliance with the Clean Water Act
- #9 - Waste samples collected for testing are handled in accordance with 40 CFR 261
- #10 - Notification of releases to National Response Center, per 40 CFR 302
- #15 - Effective RCRA permit in place, per CCR 100
- #16 - Existence of emergency management programs, plans, and procedures, per DOE 5500 3
- #17 - Chemical, physical, and/or other environmental stress have been identified, personnel informed, and stresses are being controlled
- #18 - Operating organization and administration have effectively implemented Industrial Hygiene, Occupational Safety, Radiological Protection, and Health and Safety Engineering programs
- #19 - Hazard communication program effectively implemented, per 29 CFR 1910
- #21 - Evidence of an FSAR developed and completed prior to operation
- #22 - Safety analysis and review process ensures that potential hazards are systematically identified
- #30 - Controlled alarm response procedures are available to operators, per DOE 5480 19
- #46 - LLW is accurately characterized to permit proper segregation, treatment, storage, and/or disposal
- #47 - Identification and maintenance of all devices is ensured
- #48 - Decontamination procedures are developed and implemented
- #49 - Records are maintained on LLW entering and leaving storage

VII DOE CONCERNS and ISSUES

In addition to key project elements being addressed and evaluated through EG&G's internal Readiness Assessment, as described in the preceding pages, the DOE Readiness Assessment Team also identified several concerns and issues during the course of the assessment process In some instances, these concerns/issues are directly related to checklist items developed through the EG&G review process In other instances, this relationship is not as clear

All concerns and issues, whether arising from the EG&G assessment or as an issue/concern raised by DOE, have been placed on the SPRP Internal Tracking Matrix (Appendix 4), as described in Section I B 4 above All items carrying a "Post-startup" status will be placed on the RFP Plant Action Tracking System (PATS) to ensure closure on the schedules indicated

The following are those concerns/issues raised by the DOE Special Assessment Team which do not appear/are not included within Findings or Open Items from the EG&G Readiness Assessment

- Tank Siting Stability -- There are questions as to the adequacy of the final design, construction, and operations of the trenching and water collection system which was installed to insure the stability of the siting of the TMSTs

- PMO for Hillside Trench (tied to the above item) -- There is no active plan to verify and maintain the proper operation of the trenching system for the hillside to the north of the tanks

- Cold Weather Operations -- The system, as designed, cannot operate satisfactorily in cold weather Because of its design, the discharge and priming systems must be removed during cold weather to prevent them from being encased in with ice In order to operate in cold weather ice must be removed from around the priming and discharge systems reinstalled If water is removed during cold weather, there is a possibility that ice could damage the primary liner as water is removed from under the ice

- Tank-to-Tank Transfer System -- The emergency tank to tank transfer system may be inadequate to transfer hazardous waste without spillage

- Pump House 308B Cleanliness -- The floor of 308B pumphouse constitutes the secondary containment requirements per RCRA regulations However, as designed, the grating over the floor does not allow for easy access for cleaning The design (open grating) allows for debris to easily be deposited on the floor In addition, the lack of a paved walkway from the tank area to the pumphouse contributes to the amount of debris buildup in the pumphouse

- Erosion Control of the Hillside Below the Tanks -- The hillside immediately to the south of the TMSTs shows signs of erosion due to runoff from the paved area around the tanks The drainage systems from the paved area is inadequate

- Tank Coverings -- The TMST design provides no means to be covered from the environment to prevent silt and other organic and inorganic debris from accumulating in the tanks Waste sludge will have to be disposed of in the future NOTE this item references item RF-92-02-01-17 from the August 1992 HQ Readiness Assessment

- Building 374 Permit -- Ensure that the ITS waste constituents, including the FO39 waste code, are included or are being added to the B374 RCRA Part B Permit

- Operational Equipment Not Installed -- The suction lines and priming systems of all three tanks are in various states of disrepair and not installed The tank-to-tank transfer permanent piping for all three tanks are in various states of assembly/disassembly

- Operations Personnel Training -- There is no evidence that the specific operations personnel who will be operating the ITS equipment and systems have been trained and certified

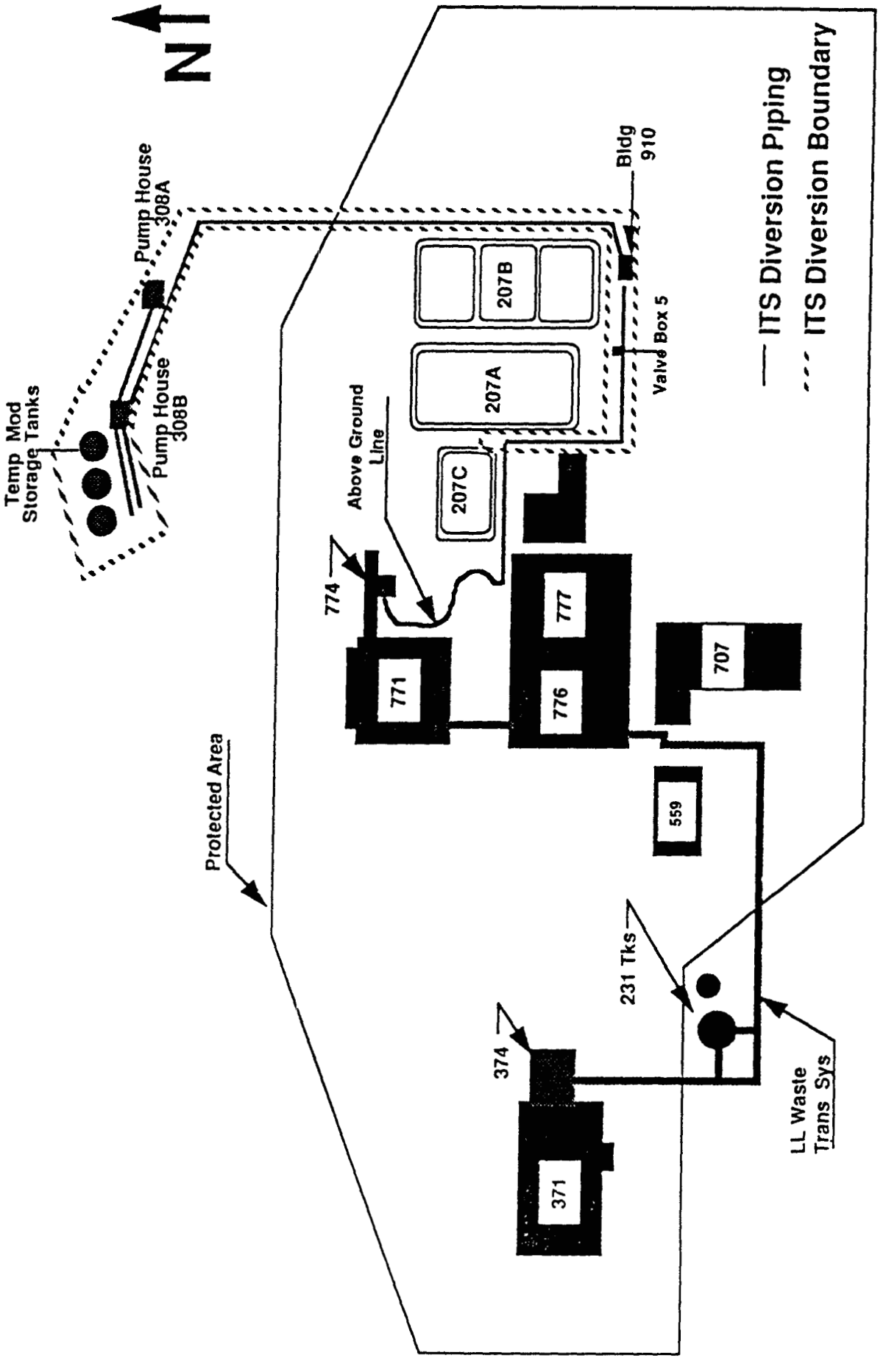
- Operational Procedures -- The RFO review and walkdown of the operational procedures has identified numerous discrepancies within the procedures

- Alarms -- The complete system of alarms for leak detection and high and low levels of the tanks and the transfer piping are not installed and/or connected and tested

- Labeling -- Many of the valves are not labeled on the tanks and in pump houses 308A & B In addition, the tanks must be labeled "Hazardous Waste Tanks "

VIII LIST OF ATTACHMENTS

Attachment 1	ITS Diversion Physical Boundaries
Attachment 2	ITS Diversion Readiness Assessment Document Matrix
Attachment 3	ITS Diversion Special Assessment Findings, Open Items, Issues and/or Commitments -- SPRP Internal Tracking Matrix
Attachment 4	Construction Management Task Reference Documents Matrix


N
Temp Mod Storage Tanks
Pump House 308B
Pump House 308A
Bldg 910
Valve Box 5
207A
207B
207C
Above Ground Line
774
771
777
776
707
559
231 Tks
374
371
LL Waste Trans Sys
Protected Area
ITS Diversion Piping
ITS Diversion Boundary

Courier bold denotes items required as part of the DOE Review Package						
Courier denotes items not required for the DOE Review Package but available during the review meeting						
Section numbers refer to the Project Readiness Assessment Review Package for the ITS Diversion						
DOCUMENT NUMBER	**DOCUMENT TITLE**	**RESP EG&G ORG**	**PRESENT STATUS**	**DATE APP'V'D**	**REV NO**	**RESP. DOE ORG**
SECTION 1 -- ITS DIVERSION DOCUMENT MATRIX			continually updated			
SECTION 2 -- READINESS ASSESSMENT REVIEW MEETING AGENDA			continually updated			
SECTION 3 -- PROGRAM/PROJECT DESCRIPTIONS						
WATER MANAGEMENT > > >		SPRP/PMS	**complete**	3/5/93	n/a	
n/a	**ITS Diversion**	SPRP/PMS	**complete**	3/5/93	n/a	
n/a	**>>Physical Boundaries Description**	SPRP/PMS	**complete**	3/5/93	n/a	
n/a	**>>Administrative Boundaries Description**	SPRP/PMS	**complete**	3/5/93	n/a	
SLUDGE PROCESSING > > >		SPRP/PMS	**complete**	3/5/93	n/a	
PAD STORAGE OPERATIONS > > >		SPRP/PMS	**complete**	3/5/93	n/a	
OU4 REMEDIATION > > >		SPRP/PMS	**complete**	3/5/93	n/a	
REMIX PROCESSING > > >		SPRP/PMS	**complete**	3/5/93	n/a	
SECTION 4 -- MANAGEMENT DOCUMENTATION						**ERD**
n/a	**Short-term Action Plan for the Interceptor Trench (ITS) Diversion**	ERM/SPRP	**complete**	1/3/93	n/a	
n/a	**>>ITS Diversion Integrated/Detail Milestone Schedule**	SPRP/TA	ongoing	n/a	n/a	
1-11300-QAP-ITS	**Interceptor Trench Diversion (ITS) System Diversion Quality Assurance Plan**	ERM/SPRP	**complete**	1/12/93	0	
n/a	**Plan for Sampling & Analyzing Water in the TMSTs and Their Secondary Containment Sumps**	ERM/SPRP	**complete**	3/3/93	2	
n/a	**Self-Assessment Plan for the ITS Diversion of the SPRP**	SPRP/PMS	**complete**	12/22/92	0	
n/a	**>>Validated Checklists (Appendix 1)**	SPRP>SAA	**complete**	3/24/93	n/a	All
n/a	**>>>>ITS Diversion Self-Assessment Checklist Status Matrix**	SPRP	in process	3/31/93	n/a	
n/a	**EG&G Self-Assessment Final Report**	SAA/Assess	**complete**	3/24/93	n/a	
n/a	**EG&G Evidence of Readiness Report**	SPRP	**complete**	4/1/93	n/a	
n/a	**SPRP Internal Tracking Matrix: Findings, Open Items, etc., and Closure Documentation**	SPRP	ongoing	4/1/93	5	
n/a	**>>>>Disposition of Findings, DOE RA of 8/1992**	SPRP	**complete**	3/5/93	n/a	
n/a	**ITS Diversion Documentation Hierarchy (Tree)**	SPRP/PMS	**complete**	2/25/93	n/a	

Attachment 2

Courier bold denotes items required as part of the DOE Review Package

Courier denotes items not required for the DOE Review Package but available during the review meeting

Section numbers refer to the Project Readiness Assessment Review Package for the ITS Diversion

DOCUMENT NUMBER	DOCUMENT TITLE	RESP EG&G ORG	PRESENT STATUS	DATE APP'V'D	REV NO	RESP DOE ORG
ORGANIZATION CHARTS > > >						
n/a	**ERM, SPRP**	SPRP/PMS	**complete**	n/a	n/a	
n/a	**Water Management**	SPRP/PMS	**complete**	n/a	n/a	
SECTION 5 -- REGULATORY DOCUMENTATION						**Waste Ops**
n/a	Interim Measure / Interim Remdial Action (IM/IRA)	DOE/EPA/CDH	**finalized**	4/6/92	n/a	
93-DOE-00977	>>>>IM/IRA modificaton letter	SPRP>DOE>CDH	**complete**	1/25/93	n/a	
n/a	>>>>IM/IRA modifcation approval letter	CDH>DOE/RFO	**complete**	2/17/93	n/a	
DOE/EA-0487	Environmental Assessment	SPRP>DOE	**complete**	8/91	n/a	
91-09-03-01	RCRA Permits	EG&G>DOE				
SECTION 6 -- DESIGN DOCUMENTATION						**Const & Engr**
	Operational Requirements Document (ORD) for Temporary Modular Storage Tanks (TMSTs)	E&T				
	TMST Design Criteria	E&T				
ENGINEERING DRAWINGS > > >						
	>>>>TMSTs Installation Drawings (Modutank)	E&T				
	>>>>Engineering Drawings (LATA)	E&T				
	>>>>Consolidated Construction Redline Drawings	E&T	due 4/7/93			
FIELD CHANGE ORDERS > > >		E&T	SPRP files	n/a	n/a	
AS-BUILT DRAWINGS > > >		E&T	due 7/8/93		n/a	
SECTION 7 -- OPERATIONAL DOCUMENTATION						**Ops Division**
4-22MTS-308A-001	**Modular Tank Waste Water Fill Operation**	E&WM/LWTP	**approved**	3/2/93	0	
4-22MTS-308B-001	**Modular Tank Waste Water Transfer to Building 374**	E&WM/LWTP	**approved**	2/16/93	0	
4-22MTS-308B-002	**Modular Tank Waste Water Transfer Abnormal Operation**	E&WM/LWTP	**approved**	3/2/93	0	
4-22ARP-308B-ANN	**Modular Tank Alarm Response Procedures**	E&WM/LWS	**approved**	12/18/92	0	
4-22ARP-3181-CB41-1	**Pump House 308B Alarm Response Procedure**	E&WM/LWS	**approved**	3/30/93	0	
WC# TI063843	**Type "C" Work Package MST Liner Replacement**	FPM	**approved**	2/23/93	0	

Attachment 2

Courier bold denotes items required as part of the DOE Review Package

Courier denotes items not required for the DOE Review Package but available during the review meeting

Section numbers refer to the Project Readiness Assessment Review Package for the ITS Diversion

DOCUMENT NUMBER	DOCUMENT TITLE	RESP EG&G ORG	PRESENT STATUS	DATE APP'V'D	REV NO	RESP DOE ORG.
SECTION 8 -- TEST DOCUMENTATION						**PA & QA**
n/a	**Test Plan**			none	n/a	
SUBSYSTEM TEST PROCEDURES (SO TESTS) > > >						
TP-986819-01	**Temporary Modular Tank Installation SO & CC Test**	E&T/SE	Rev 1 in process	7/10/92	0	
TEST REPORTS > > >						
SECTION 9 -- SAFETY DOCUMENTATION						**Ind/Rad/Nuc**
Building 910 FSAR	**Building 910 Final Safety Analysis Report (FSAR)**	ERM>DOE	**DOE,HQ approved**	3/25/93	0	
n/a	**Building 910 Health and Safety Plan**	SS&S>LWTO	**approved**	3/19/93	1	
910 001	**Operational Safety Analysis (OSA) - Building 910 Evaporator Process**	SS&S/LWTO	**approved**	1/6/93	n/a	
SECTION 10 -- TRAINING DOCUMENTATION						**Trng & Devel**
n/a	**Summary of Qualification and Certification Requirements**	LWP & LWS	completed via validated checklists	3/24/93	0	
n/a	**Task Qualification Document**	LWP	**approved**	3/4/93	0	
n/a	**>>>>Task Qualification Package**	E&WM/LWTO> PBT	training underway		n/a	
n/a	**>>>>Training Rosters**	E&WM>PBT	completed via validated checklists	3/24/93	n/a	
SECTION 11 -- SUPPORTING DOCUMENTATION						
1-90953-CCCP	Configuration Change Control Program (CCCP) Manual	E&T/ES	**complete**	8/28/92	11	
CORRESPONDENCE > > >						

Attachment 2

Attachment 3

ITS Diversion Special Assessment: Findings, Open Items, Issues and/or Commitments -- SPRP Internal Tracking Matrix

ITS DIVERSION SPECIAL ASSESSMENT FINDINGS, OPEN ITEMS, ISSUES AND/OR COMMITMENTS - - - SPRP INTERNAL TRACKING MATRIX

NO	TITLE	ITEM DESCRIPTION	ITEM SOURCE	CATEGORY	REQUIRED ACTION / RESPONSE	TYPE	ORGANIZATION ORGANIZATION LEAD/Support	ORGANIZATION INDIVIDUAL LEAD/Support	COMMITMENT DATE / STATUS
1	Checklist 2	a The original design review was inadequate b Field changes did not have same review as original design c EG&G non cognizant persons approved changes d Sketches used where controlled drawings were required e Design controls for changes were not same as those applied to original design f approved without review by affected discipline	EG&G DOE	FINDING FINDING	A>>Determine (Action Plan) the extent to which apparent lack of proper change control may have compromised the tanks' design and what actions (pre and post startup) should be taken	A>> Pre-Startup	A>>EG&G E&T	D. HARRIS / J Rau (RFO)	COMPLETED 3/26/93
					B>>Provide strategy as to the acceptability of the use of consolidated redline drawings [See DPS-082-93]	B>> Pre-Startup	B>>EG&G E&T	D HARRIS/	CLOSED 3/31/93
					C>>Re review and document approval of technical reviews by affected Engineering disciplines on a DDR for all FCOs issued against project and generate any needed design information	C>> Pre-Startup	C>>EG&G E&T	D HARRIS/	4/7/93
					D>>Brief RFO on reasons for and extent of departure from procedures potential impact on other plant projects and plan to address plant wide issue	D>> Post Startup	D>>EG&G E&T	D HARRIS/	5/3/93
2	Checklist 3	Redlined drawings are not available	EG&G DOE	Open Item FINDING	A>>Operations can start with assurance (Action Plan) that all testing is completed, redlined critical drawings are available (exceptions agreed to by SPRP PMO), and all operators certified.	A>> Post-Startup	A>>EG&G E&T(Design)	D HARRIS / C Bicher	COMPLETED 3/26/93
					B>>Provide strategyy as to the acceptability of the use of consolidated redline drawings. [See ENG-ITS-002 and DPS-082-93]	B>> Pre-Startup	B>>EG&G E&T	D HARRIS / D. Snyder	CLOSED 3/31/93
					C>>Provide a set of consolidated construction redline drawings	C>> Pre-Startup	C>>EG&G E&T	D HARRIS	4/7/93
3	Checklist 5	a SO Testing procedure not properly verified and signed off b Facilities Inspection Plan incomplete c Quality Verification Plan lacks FI signature d Some Facilities Inspection Task Reports not available and/or failed e IWCP Task Instructions incomplete tasks incomplete signatures missing	EG&G	Open Item	Complete all SO Testing and provide documentation to that effect	Pre-Startup	EG&G SPRP	A. LEDFORD	4/8/93
4	Checklist 12	Tank 308C is not presently certified	EG&G	Open Item	Secure evidence of and/or certification of Tank 308C	Pre-Startup	EG&G FPM	D. ERICSON	CLOSED 3/24
5	Checklist 23	The program does not have an approved SAR	EG&G DOE	FINDING FINDING	Secure HQ (conditional) approval signature on Rev. 0 and provide physical verification of signature.	Pre-Startup	RFO / EG&G SPRP PMO	S SUROVCHAK / D. Ringle	CLOSED 3/26
6	Checklist 25	As built drawings and records incomplete	EG&G	Open Item	Validation of this list is accomplished via closeout of Open Items on Checklist No 3 (see Item 2 above)	Post-Startup	EG&G E&T	D HARRIS	SEE ITEM 2

Revision 5 April 1 1993
All Post Startup" items will be transferred to the PATS

ITS DIVERSION SPECIAL ASSESSMENT FINDINGS, OPEN ITEMS, ISSUES AND/OR COMMITMENTS - - - SPRP INTERNAL TRACKING MATRIX

NO	TITLE	ITEM DESCRIPTION	ITEM SOURCE	CATEGORY	REQUIRED ACTION / RESPONSE	TYPE	ORGANIZATION ORGANIZATION LEAD/Support	ORGANIZATION INDIVIDUAL LEAD/Support	COMMITMENT DATE / STATUS
7	Checklist 27	Calibration of instruments will not be completed per the ITS schedule until after the delivery date of the EG&G Self Assessment Report	EG&G	Open Item	Complete instrument calibrations (This item is already scheduled on the ITS master schedule)	Pre-Startup	EG&G LWTO	R DUNN	4/7/93
8	Checklist 30	ARPs will not be available in Buildings 374 308B pumphouse and B910, until after the delivery date of the EG&G Self Assessment Report	EG&G	Open Item	Ensure that all ARPs have been properly distributed and are available Verify by obtaining copy(ies) of controlled procedure receipts from the affected buildings, or other means	Pre-Startup	EG&G SPRP	V,VALENCIA	CLOSED 3/30/93
9	Checklist 34	No evidence exists that the B 374 operators have read the shift orders	EG&G DOE	Open Item FINDING	A>>Implement improved Shift Order documenting individual B 374 operator briefings.	A>> Pre-startup	A>>EG&G E&WM (LWTO)	N CYPHER / J Knight	CLOSED 3/31/93
					B>>Insure all B 374 operators have read the shift order and signed off	B>> Pre-startup	B>>EG&G E&WM (LWTO)	N CYPHER / J Knight	4/7/93
		No evidence exists that the B 910 operators have read the shift orders			C>>Implement improved Shift Order documenting individual B 910 operator briefings	C>> Pre-startup	C>>EG&G E&WM (LWTO)	R DUNN / J Knight	3/30/93
					D>>Insure all B 910 operators have read the shift order and signed off	D>> Pre-startup	D>>EG&G E&WM (LWTO)	R DUNN / J Knight	4/7/93
					E>>Address programmatic issue of temporary nature of Shift Orders versus permanent need for operator briefings	E>> Post Startup	E>>EG&G E&WM (LWTO)	N CYPHER & R DUNN	5/21/93
10	Checklist 35	Telemetry system to Building 374 is not operational The system in 308B has not passed SO Testing	EG&G DOE	Open Item FINDING	A>>Provide a schedule for telemetry operational status,	A>> Pre-Startup	A>>EG&G FPM	M. GLASER	CLOSED 3/30/93
					B>>Conduct SO testing on telemetry (This item is on the ITS master schedule)	B>> Pre-Startup	B>>EG&G CM	R. ANHOLD	4/6/93
11	Checklist 39	A document control system has not been established for all quality related documents, e g. procedures	DOE	FINDING	Implement proper document control system,	Post-Startup	EG&G SPRP PMO	D. RINGLE / D. Brown	CLOSED 3/30/93
		There is no document control system established for the records generated by the operation of the 910 project.	EG&G	Open Item	Evidence of implementation of proper document control system	Post Startup	EG&G SPRP PMO	D RINGLE / D Brown	CLOSED 3/30/93
12	Checklist 50	Building 788 personnel are not trained on the TMST procedure	EG&G	Open Item	Ensure that all affected personnel have received the necessary training	Pre-Startup	EG&G Waste Solid Tng	K ANHOLD / G Martinez	4/2/93

Attachment 3

ITS DIVERSION SPECIAL ASSESSMENT FINDINGS, OPEN ITEMS, ISSUES AND/OR COMMITMENTS --- SPRP INTERNAL TRACKING MATRIX

NO	TITLE	ITEM DESCRIPTION	ITEM SOURCE	CATEGORY	REQUIRED ACTION / RESPONSE	TYPE	ORGANIZATION ORGANIZATION LEAD/Support	ORGANIZATION INDIVIDUAL LEAD/Support	COMMITMENT DATE / STATUS
13	Tank Siting Stability	There are questions as to the adequacy of the final design construction and operations of the trenching and water collection system which was installed to ensure the stability of the siting of the TMSTs	EG&G DOE	Issue Issue	A>>Brief RFO-ERD as to the adequacy of the final design and construction/measures to ensure the stability of the hillside where the modular tanks are sited	A>> Pre-Startup	A>>EG&G E&T (Design)	D. SNYDER / C. Bicher	COMPLETED 3/29/93
					B>>Survey monument locations prior to startup	B>> Pre-Startup	B>>EG&G E&T (Design)	D SNYDER / C Bicher	COMPLETED 3/31/93
					C>>Provide written summary of monument survey results (Item 13B)	C>> Pre-Startup	C>>EG&G E&T	D SNYDER / C Bicher	4/6/93
					D>>Provide written analysis of monument survey results (Item 13B) from Woodward Clyde Inc	D>> Post Startup	D>>EG&G E&T	D SNYDER / C Bicher	5/10/93
					E>>Generate a site surveillance strategy to ensure stability	E>> Pre-Startup	E>>EG&G SPRP / E&T / LWTO	D RINGLE / M Bretz	4/7/93
					F>>Evaluate economics of EG&G Engineering performing subsequent measurements	F>> Post Startup	F>>EG&G SPRP	R BOYLE / R Dunn	4/30/93
					G>>Subcontractor to perform baseline measurements on inclinometers and piezometers	G>> Post Startup	G>> EG&G E&T	D SNYDER / C Bicher	4/30/93
					H>>Generate a site surveillance plan to ensure stability	H>> Post Startup	H>>EG&G SPRP	R BOYLE / R Dunn	5/3/93
14	PMO for Hillside Trench (subset of Item 13)	There is no active plan to verify and maintain the proper operation of the trenching system for the hillside to the north of the tanks	DOE	Issue	A>>Devise and institute a plan that will insure the maintenance and proper operation of the trenching system and associated pumps and passive drain lines (modular tanks underdrain)	A>> Post Startup	A>>EG&G E&T (Design)	D SNYDER / C Bicher	5/3/93
					B>>Issue Engineering Service Request (ESR) for installation of pump test switch and flowmeter in underdrain pump discharge line	B>> Post Startup	B>>EG&G SPRP / E&T / CM	R BOYLE	4/23/93
					C>>Include backdrain pumps and piping in the PMO schedule	B>> Post Startup	C>>EG&G LWTO	C>>R DUNN	4/23/93
15	Cold Weather Operations	RFO asserts that the system as designed cannot operate in cold weather When there is ice in the tanks, water cannot be pumped because of the design of the possible damage to liners	EG&G DOE	Issue Issue	A>>Provide rationale, via briefing, as to if operations in cold weather are required and probability of need.	A>> Pre-Startup	A>>EG&G SPRP/LWTO/ PMO	R BOYLE / B. Trop/	COMPLETED 3/29/93
					B>>Provide input for Cold Weather Ops procedure	B>> Post Startup	B>>EG&G SPRP / LWTO	R BOYLE / Dunn / Valencia	9/15/93
					C>>Approved Cold Weather Operations procedure	C>> Post startup	C>>EG&G SPRP / LWTO	R BOYLE / Dunn / Valencia	11/1/93

Revision 5 April 1 1993
All "Post Startup" items will be transferred to the PATS

Attachment 3

ITS DIVERSION SPECIAL ASSESSMENT FINDINGS, OPEN ITEMS, ISSUES AND/OR COMMITMENTS - - - SPRP INTERNAL TRACKING MATRIX

NO	TITLE	ITEM DESCRIPTION	ITEM SOURCE	CATEGORY	REQUIRED ACTION / RESPONSE	TYPE	ORGANIZATION ORGANIZATION LEAD/Support	ORGANIZATION INDIVIDUAL LEAD/Support	COMMITMENT DATE / STATUS
16	Tank to Tank Transfer System	The emergency tank to tank transfer system may be inadequate to transfer hazardous waste without spillage	EG&G DOE	Issue Issue	A>>In view of spillage incident while transferring potable water during tank repair operation, SPRP needs to demonstrate (via briefing) adequacy of current system design/operation without [unacceptable] water spillage	A>> Pre-Startup	A>>SPRP PMO /LWTO	A LEDFORD / R Dunn	COMPLETED 3/29/93
					B>>Provide physical demonstration of Tank to Tank transfer procedure	B>> Pre-Startup	B>>SPRP PMO /LWTO	A LEDFORD / R Dunn	4/7/93
					C>> Draft PCN for changes to Tank to-Tank transfer procedure	C>> Pre-startup	C>>SPRP	V VALENCIA	4/5/93
					D>>Approved PCN for changes to Tank to Tank transfer procedure	D>> Post startup	D>>SPRP	V VALENCIA	4/19/93
17	Pumphouse 308B Cleanliness	The floor of 308B pumphouse constitutes the secondary containment requirements per RCRA regulations However as designed the grating over the floor does not allow for easy access for cleaning The design (open grating) allows for debris to easily be deposited on the floor In addition the lack of a paved walkway from the tank area to the pumphouse contributes to the amount of debris buildup in the pumphouse	EG&G DOE	Issue Issue	A>>Modify present grating in the pumphouse to allow for easy access for cleaning and remove debris (This item is already scheduled on the ITS master schedule)	A>> Pre-Startup	A>>EG&G FPM	M GLASER	4/8/93
					B>>Install partial solid flooring in pumphouse to prevent debris buildup in sump	B>> Post Startup	B>>EG&G FPM	M GLASER	4/16/93
					C>>Provide a walkway to eliminate the source of the debris (This item is already scheduled on the ITS master schedule)	C>> Post Startup	C>>EG&G FPM	M GLASER	6/16/93
18	Erosion Control of Hillside Below the Tanks	The hillside immediately to the south of the modular tanks shows signs of erosion due to runoff from the paved area around the tanks The drainage systems from the paved area appears is inadequate	EG&G DOE	Issue Issue	Explain current design and source of anomolous erosion, and design surface water runoff system	Post Startup	EG&G SPRP/E&T	R BOYLE / D Snyder	5/3/93
19	Tank Coverings	The modular tank design provides no means to be covered from the environment to prevent silt and other organic and inorganic debris from accumulating in the tanks Waste sludge will have to be disposed of in the future NOTE This references item RF 92-02-01 17 from the August 1992 DOE HQ Readiness Assessment	EG&G DOE	Issue Issue	Assess the need to provide a means either by design and/or operations that will prevent the buildup of contaminated sludge in the tanks	Post Startup	EG&G SPRP PMO	R BOYLE	5/3/93

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ITS DIVERSION SPECIAL ASSESSMENT FINDINGS, OPEN ITEMS, ISSUES AND/OR COMMITMENTS - - - SPRP INTERNAL TRACKING MATRIX

NO	TITLE	ITEM DESCRIPTION	ITEM SOURCE	CATEGORY	REQUIRED ACTION / RESPONSE	TYPE	ORGANIZATION ORGANIZATION LEAD/Support	ORGANIZATION INDIVIDUAL LEAD/Support	COMMITMENT DATE / STATUS
20	Building 374 Permit	Ensure that the ITS waste constituents including the FO39 waste code are included or are being added to the B 374 RCRA Part B Permit	EG&G DOE	Issue Issue	A>>Assure that the permit for Building 374 has been updated to include any additional constituents that are included in the ITS waste stream	A>> Pre-Startup	A>>EG&G SPRP	K LONDON	CLOSED 3/30/93
					B>>Submit Revised Part A (Application for Interim Status) including waste code F039 (multi source leachate)	B>> Post Startup	B>>EG&G E&WM RCRA Reg Prog RFO ERD	K PETER / S Surovchak	5/3/93
21	Operational Equipment not Installed	The suction lines and priming systems of all three tanks are in various states of disrepair and not installed The tank to tank transfer permanent piping for all three tanks are in various states of assembly/disassembly	DOE	Issue	Repair and install all required items and ensure all systems are in operational configuration before RFO ERD readiness is certified (suction lines tank to tank piping storage etc) These activities are already on the ITS punchlist	Pre-Startup	EG&G SPRP PMO	A LEDFORD	4/8/93
22	Operations Personnel Training	There is no evidence that the specific operations personnel who will be operating the ITS equipment and systems have been trained and certified	DOE	Issue	Provide evidence that the personnel have in fact received proper training NOTE. This evidence is already included via several EG&G Checklist validations	Pre-Startup	EG&G SPRP	M BRETZ	CLOSED 3/30/93
23	Operat g Proced's	The RFO review and walkdown of the operational procedures has identified numerous discrepancies within the procedures	DOE	Issue	EG&G and RFO need to resolve comments to the operational procedures The discrepancies for the most part are minor and none are cause for a delay in the Declaration of Readiness	Post Startup	DOE ERD EG&G SPRP	E O TOOLE / V Valencia	TBD
24	Alarms	The complete system of alarms for leak detection and high and low levels of the tanks and the transfer piping are not installed and/or connected and tested	DOE	Issue	Assure all alarms and sensors are installed connected tested and ready for operations (high and low level sensors for the tanks sump leak detection piping leak detection and pumphouse sump detection) Activities are already on the ITS punchlist	Pre-Startup	EG&G SPRP	A LEDFORD	4/8/93
25	Labeling	Many of the valves are not labeled on the tanks and in pump houses 308A & B In addition the tanks must be labeled "Hazardous Waste Tanks "	DOE	Issue	A>>Label all tanks prior to startup These activities are already on the ITS punchlist	A>> Pre-Startup	A>>EG&G SPRP	A LEDFORD	4/8/93
					B>>Label all valves that lack labels prior to startup or demonstrate that operators have sufficient familiarity with the system that the operations can be performed without incident These activities are already on the ITS punchlist	B>> Pre-Startup	B>>EG&G SPRP	A LEDFORD	4/8/93

Attachment 3

Construction Management
Task Reference Documents

ACTIVITY DESCRIPTION	DOE Order 4700 1	COEM Procedure(s)	Responsibility	Phase
Review T I and I II Design	Ch V Part C	COEM 6 1 5 8 1	Const Engr	Pre
Prepare Package for Procurement	Ch V Part C	N/A Note 1	Const Engr	Pre
Pre bid Tour/Pre Const Activities	Ch V Part C	N/A Note 2	Const Engr & Coord	Pre
Conduct Pre Estimate Walk Thru for CPFF	Ch V Part C	N/A	Const Engr	Pre
Coord /Prepare JSA	Ch V Part C	N/A	Const Engr	Pre
Monitor Submittals	Ch V Part C	COEM 8 20 28	Const Engr	Pre
Prepare Security Plan	N/A	N/A Note 1	Const Engr	Pre
Prepare IWCP Package	N/A	N/A Note 3	Const Engr	Pre
Coordinate GFE	N/A	COEM CSP 13 CSP 20 FAC 7	Const Engr	Const
Conduct Project Status Meetings	Ch V Part C	N/A Note 1	Const Engr	Const
Control Schedule	Ch V Part C	N/A Note 1	Const Engr	Const
Analyze Progress/Weekly Summaries	Ch V Part C	COEM 8 20 11	Const Engr & Coord	Const
Resolve Field Problems promptly	Ch V Part C	COEM FAC 23 FAC 25 6 7 8 20 25 CCCP	Const Engr	Const
Process Changes	Ch V Part C	COEM FAC 17 FAC 23 FAC 25 CCCP	Const Engr	Const
Finalize Construction activities	Ch V Part C	COEM CSP 19 6 6 6 6 2, 6 5 6 8 14, 3 14 FAC 29 FAC 33 CCCP	Const Engr	Const
Collect and Distribute O&M Manuals	Ch V Part C	CCCP	Const Engr	Post
Collect and Distribute Project Documents	Ch V Part C	CCCP	Const Engr & Coord	Post
Evaluate Subcontractor	Ch V Part C	N/A	Const Engr & Coord	Post
Issue GFE			Const Coord	Pre
Coordinate Safety Inspection of Equipment	N/A	HSP Manual	Const Coord	Pre
Post Job Site	N/A	COEM CSP 10 HSP Manual & OSHA	Const Coord	Pre
Conduct Pre Evolution Briefing	N/A	Note 3	Const Coord	Const
Monitor and Document Weekly Safety Mtgs	N/A	OSHA	Const Coord	Const
Enforce Safety and Environmental Compliance	N/A	OSHA	Const Coord	Const
Review Pay Requests	N/A	COEM 8 20 25	Const Coord	Const
Review Down time Claims	N/A	COEM 8 20 25	Const Coord	Const
Maintain Daily Log	N/A	COEM 8 20 11	Const Coord	Const
Coordinate Photographic Logs	Ch V Part C	COEM 8 20 11	Const Coord	Const
Prepare Man Power Reports			Const Coord	Const
Inform FI of Technical Changes			Const Coord	Const
Verify with FI Certification Requirements	N/A	Note 3	Const Coord	Const
Coordinate Testing with FI	N/A	COEM CSP 24 CCCP Section 3 12 IWCP 5	Const Coord	Const
Resolve NCRs	N/A	COEM 6 7	Const Coord	Const
Participate in Final Walkthrough	N/A	COEM 8 14 CCCP Section 3 14	Const Coord	Const
Conduct Final Inspection Tour & PA&T	N/A	COEM 8 14 CCCP Section 3 14	Const Coord	Post

Notes
1 Rocky flats Procurement Manual 718 Fixed Price Construction Subcontracting RFPD 5 "Special Provisions for Const Subcontracts"
2 Form RF 37140
3 IWCP Program